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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,393	11/04/2003	Ramesh M. Santhanakrishnan	112025-0531	5792
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CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210				
			EXAMINER JONES, PRENELL P	
			ART UNIT 2616	PAPER NUMBER

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,393

Applicant(s)

SANTHANAKRISHNAN ET AL.

Examiner

Prenell P. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4, 9, 22 and 24-54 is/are allowed.
- 6) ☒ Claim(s) 1, 5-8, 10-21 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/07/05</u> | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1-54 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 1-54, wherein Applicant argues that cited art is silent on ***"establishing a limit that indicates a number of forwarding database entries that may be associated with the VLAN,"*** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1, 5-8, 12, 13-19, 21 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 1, 12, 13, 21 and 23, in lines 6, in line 7, in line 8, in line 5 and in line 4 respectively, the phrase ***"may be"*** renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Claims 5-8 and 14-19 depend on claims 1 and 13 respectively; therefore, they are rejected as well.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8,12, 18-20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US PAT 6,236,654) in view of Khill (US PG PUB 20030147405).

Regarding claim 1, 8,12, 18-20 and 23, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number ("n" to "511") of entries (col. 7, line 9-20, line 38-67, col. 11, line 5-65), a host processor monitors table/database/storage structure and determines the number of entries for a bin entry, if the entry number exceeds a prescribed threshold/limit entries associated with VLAN, the process reprograms register and then the VLAN index-to-flood is utilized/action for controlling flooding of packets (Fig. 10, col. 11, line 30-65, col. 12, line 14-20, line 35-39, line 54-55, col. 13, line 13-20, col. 14, line 1-3). Egbert is silent on matching the entry limit established for the VLAN. In a VLAN environment that utilize filtering the database, Khill discloses VLAN environment that utilizes efficient management of filtering database, and learning process to build databases and minimize flooding (paragraph 0008), wherein entries are added to database, whereby the entries are added only if entries during learning period has not exceeded the maximum limit (Abstract), communication of data packets is between MAC bridges/LSR nodes (intermediate node), and allocating a number of entries added, such that a sum of the number of entries added over entities during learning period is less than or equal to number of entries/limited number (paragraph 0018, 0021-0029). Therefore, it would have been obvious to

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one of ordinary skill in the art at the time of the invention to be motivated to implement matching the limit associated with the number of entries added to database in the VLAN environment as taught by Khill with the teachings of Egbert for the purpose of further monitoring and managing the database structure, which includes the entry of data as to eliminate or minimize flooding of packet data.

Regarding claims 8 and 19, as indicated above, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number of entries, a host processor monitors table/database/storage structure and determines the number of entries for a bin entry. Egbert further discloses that the learning function is not enabled, therefore, the learning function is disabled (col. 13, line 50-53, 58-67, col. 15, line 32-35, line 40-48).

3. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US PAT 6,236,654) in view of Khill (US PG PUB 20030147405) as applied to claims 1 and 12 above, and further in view of Gonda (US PG PUB 20030067928).

Regarding claims 6 and 17, as indicated above, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number of entries, a host processor monitors table/database/storage structure and determines the number of entries for a bin entry, and Khill discloses VLAN environment that utilizes efficient management of filtering database, and learning process to build databases and

minimize flooding, wherein entries are added to database, allocating a number of entries added, such that a sum of the number of entries added over entities during learning period is less than or equal to number of entries/limited number. However, Egbert and Khill fail to teach or suggest disabling flooding. In an environment that supports Ethernet MAC circuits in addition to supporting VLAN functionality, Gonda discloses managing data flow as to minimize flooding, wherein the architecture utilizes enabling/disabling learning and flooding (paragraph 0057, 0062). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement disabling learning and flooding as associated in a VLAN environment as taught by Khill with the teachings of Egbert for the purpose of further monitoring and managing the database structure, which includes the entry of data as to eliminate or minimize flooding of packet data.

4. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US PAT 6,236,654) in view of Khill (US PG PUB 20030147405) as applied to claims 1 and 12 above, and further in view of Bare (US PAT 6,556,541).

5. Regarding claims 5 and 16, as indicated above, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number of entries, a host processor monitors table/database/storage structure and determines the number of entries for a bin entry, and Khill discloses VLAN environment that utilizes efficient management of filtering database, and learning process to build databases and minimize flooding, wherein entries are added to database, allocating a number of entries added, such that a sum of the number of entries added over entities during learning period is less than

or equal to number of entries/limited number. However, Egbert and Khill fail to teach or suggest logging a message that is accessible to intermediate point. In analogous art, (Abstract, col. 8, line 40-55, col. 20, line 3-14) Bare discloses MAC address learning, offloading and flooding of packets associated in a VLAN environment, wherein the function of forwarding packet data to memory is implemented, and when ports are blocked (flooded) a message is logged and accessible to system manager and any network management station. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement logging a message associated with a communication system that implements forwarding databases (memory/queue) and associated entries as taught by Bare with the combined teachings of Egbert and Khill communication system which also implements forwarding/routing databases in a VLAN environment for the purpose of further managing the balancing of packet data in a network where flooding is an issue.

6. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US PAT 6,236,654) in view of Khill (US PG PUB 20030147405) as applied to claim 1 above, and further in view of Athreya et al (US PG PUB 20020027906).

7. Regarding claims 7 and 18, as indicated above, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number of entries, a host processor monitors table/database/storage structure and determines the number of entries for a bin entry, and Khill discloses VLAN environment that utilizes efficient management of filtering database, and learning process to build databases and minimize flooding, wherein entries are added to database, allocating a number of entries added, such that a sum of the number of entries added over entities during learning period is less than

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or equal to number of entries/limited number. However, Egbert and Khill fail to teach or suggest disabling forwarding packets for the VLAN. In a graphically distributed VLAN environment, Athreya discloses managing and monitoring the routing/forwarding of data between logical devices, wherein the VLAN forwarding feature is disabled (paragraph 0056-0058). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement disabling the forwarding of data as taught by Athreya with the combined teachings of Egbert and Khill for the purpose of further managing data flow as well as minimizing flooding in a VLAN environment.

8. Claims 8, 10, 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egbert (US PAT 6,236,654) in view of Khill (US PG PUB 20030147405) as applied to claim 1 above, and further in view of Gleeson et al (US PAT 6,763,023).

9. Regarding claims 8, 10, 11 and 19, as indicated above, Egbert discloses in a frame/packet forwarding switching environment wherein the architecture includes forwarding data between network stations and associated address table, VLANs are supported, heap entries contain a limited number of entries, a host processor monitors table/database/storage structure and determines the number of entries for a bin entry, and Khill discloses VLAN environment that utilizes efficient management of filtering database, and learning process to build databases and minimize flooding, wherein entries are added to database, allocating a number of entries added, such that a sum of the number of entries added over entities during learning period is less than or equal to number of entries/limited number. However, Egbert and Khill fail to teach or suggest disabling learning for VLAN. In analogous art, Gleeson discloses (Abstract, Fig. 3, col. 3, line 18 thru col. 6, line 64) a packet data communication system that includes a network switch associated with VLAN characteristics, whereby the switch implements

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forwarding databases, the processing of packets as associated with is managed as well as packing flooding at registered ports, wherein the MAC perform operations on packets entering and leaving switching system, wherein operations performed including forwarding database entries and "learning", the disabling of the learning function keeps the MAC address from being learned and discontinue the adding of entering data to the database. Gleeson further discloses (col. 4, line 34 thru col. 5, line 53, col. 6, line 23 thru col. 7, line 47) determining whether to disable the learning with respect to the comparing entries in the database associated with the MAC address and that matches source address and destination address, and if comparisons do not match, entries of source address and destination address are entered into the database after the learning process is performed. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement disabling the forwarding of data as taught by Gleeson with the combined teachings of Egbert and Khill for the purpose of further managing flooding associated in a VLAN packet data communication system.

Allowable Subject Matter

1. Claim 2-4, 9 and 22 and 24-54 are allowed over prior art.
2. The following is a statement of reasons for the indication of allowable subject matter:
Although the prior art discloses an apparatus that handles (controls/manages) congestion associated with a CPU, VLAN, switching element (intermediary point between CPU and forwarding database), forwarding logic and forwarding memory (forwarding database memory/CAM), wherein packet data entries are stored, forwarding logic that screens packets to determine whether the packet is encapsulated by SNAP or packet is tagged by a VLAN, a packet data communication system whereby flooding is managed in a VLAN environment with the help of learning process in associated with the forwarding process along with forwarding

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databases entries, they fail to teach or suggest the database entries containing a MAC threshold along with a MAC count that indicate the number of database entries associated with the VLAN, wherein the MAC count matches the MAC limit and a packet associated with VLAN determining if VLAN is shut down.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

April 12, 2006



WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER